

New Descriptions

STUDIES ON SOME MYGALOMORPH SPIDERS OF THE FAMILIES CTENIZIDAE AND THERAPHOSIDAE FROM INDIA¹

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(With thirty-eight text-figures)

INTRODUCTION

Mygalomorphae are primitive, mostly ground dwelling spiders, living in burrows and frequently closing the tube aperture with a movable lid. In these, the chelicerae are paraxial, i.e. the plane of articulation is vertical and respiratory organs are represented by four operculate pulmonary sacs or book lungs. The mygalomorphs popularly called Tarantulas, are the largest spiders found in India.

Pocock (1892, 1895 & 1900) was the first worker, who described a considerable number of these spiders from India, Ceylon and Burma. Subsequently Hirst (1909), Gravely (1915, 1918) and Tikader (1968) made some attempts to work out this neglected group of spiders.

Examination of the spider collections received from Darjeeling, West Bengal; Shillong, Meghalaya; Bangalore, Karnataka; Madras, Tamil Nadu and Bombay, Maharashtra, revealed many interesting Mygalomorphae spiders, which are being described in this paper.

The type specimens will in due course be

deposited in the National Zoological Collections, Zoological Survey of India, Calcutta.

Family CTENIZIDAE

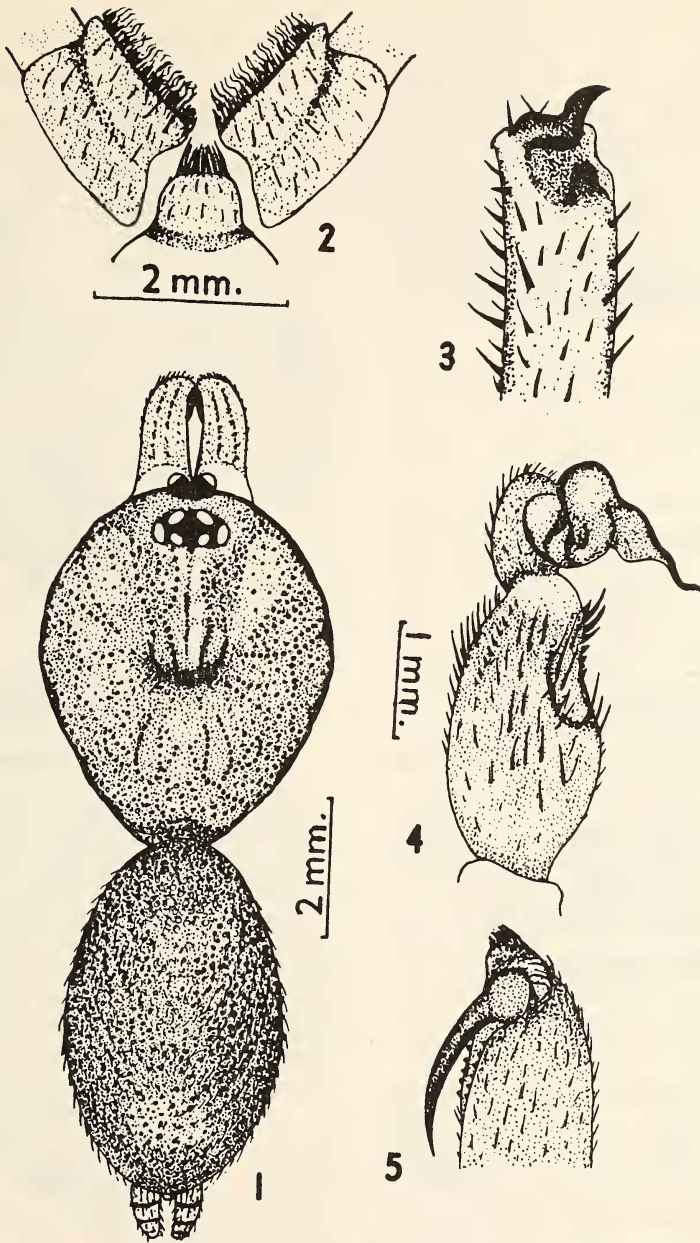
1. *Acanthodon garoensis* sp. nov.

General: Cephalothorax and legs greenish-red, abdomen brown. Total length 10.10 mm. Carapace 5.00 mm long, 4.10 mm wide; abdomen 5.00 mm long, 3.00 mm wide.

Cephalothorax: Conspicuously wider in front than behind, flat and provided with small round and circular dots, middle of cephalothorax provided with deep transverse fovea like depression. Eyes eight, nearly pale in colour; anterior lateral eyes situated in the middle of the anterior border of the carapace; the remaining eyes form a group far behind the anterior edge of the carapace. Mandibles strong and powerful; rostellum consisting of stout spines borne upon a distinct prominence. Sternum wider behind than in front, clothed with spines, two pairs of anterior sigilla present but posterior two pairs absent. Legs long and strong, I pair very long, legs formula 1432; tarsi without unguis tufts, with three claws and claws armed with one large basal

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Figs. 1-5. *Acanthodon garoensis* sp. nov. 1. Dorsal view of male, legs omitted; 2. Maxillae and labium; 3. Anterior portion of tibia of I leg; 4. Male palp; 5. Right chelicera.

tooth. Anterior tibia of I legs provided with a pointed bent spine. Male palp as in text-fig. 4. Lower portion of tibia of palp bulging and anterior portion provided with a depression and edge provided with conspicuous row of spines as in text-fig. 3.

Abdomen: Longer than wide, narrowing in front, clothed with fine hairs. Spinnerets four; posterior spinnerets long and anterior spinnerets short. Ventral side pale in colour and clothed with hairs.

Type-specimen: *Holotype* male in spirit.

Type-locality: Degrangiri, Garo Hills, Meghalaya, India. Coll. *Shyamrup Biswas*, 10.xi.1973.

This species is related to *Acanthodon fossor* Pocock but it is distinguished from it as follows: (i) Cephalothorax provided with small round and circular dots but in *A. fossor* cephalothorax smooth. (ii) Male palp also structurally different.

2. *Acanthodon madrasensis* sp. nov.

General: Cephalothorax and legs dark chocolate brown and abdomen black. Total length 18.50 mm. Carapace 8.00 mm long, 7.50 mm wide; abdomen 10.50 mm long, 7.50 mm wide.

Cephalothorax: Wider in front than behind; cephalic region high. Posterior region of cephalothorax low and flat and provided with a deep transverse fovea curved in front. Eyes eight, black in colour, anterior lateral eyes situated at middle and near the anterior margin of the carapace. The remaining eyes form a group far behind the anterior edge of the carapace. Mandibles strong and powerful, rostellum consisting of stout spines borne upon a distinct prominence. Labium and maxillae as in text-fig. 7. Sternum wider behind than in front, clothed with spines, two pairs of anterior sigilla present but posterior two pairs absent. Legs long and strong. IV pair longer and stouter than others, legs formula 4123;

tarsi without unguis tufts, with three claws and claws armed with one basal tooth.

Abdomen: Longer than wide, wider behind the middle, clothed with fine grey hairs. Spinnerets four and posterior spinnerets slightly longer and anterior spinnerets very short. Ventral side black and legs hairy. Epigyne simple as in text-fig. 9. Internal genitalia as in text-fig. 10.

Type-specimen: *Holotype* female in spirit.

Type-locality: Kulasekeram, K. K., Dist., Madras, Tamil Nadu, India. Coll. *B. V. Balaji & R. B. Grubh*, 1960.

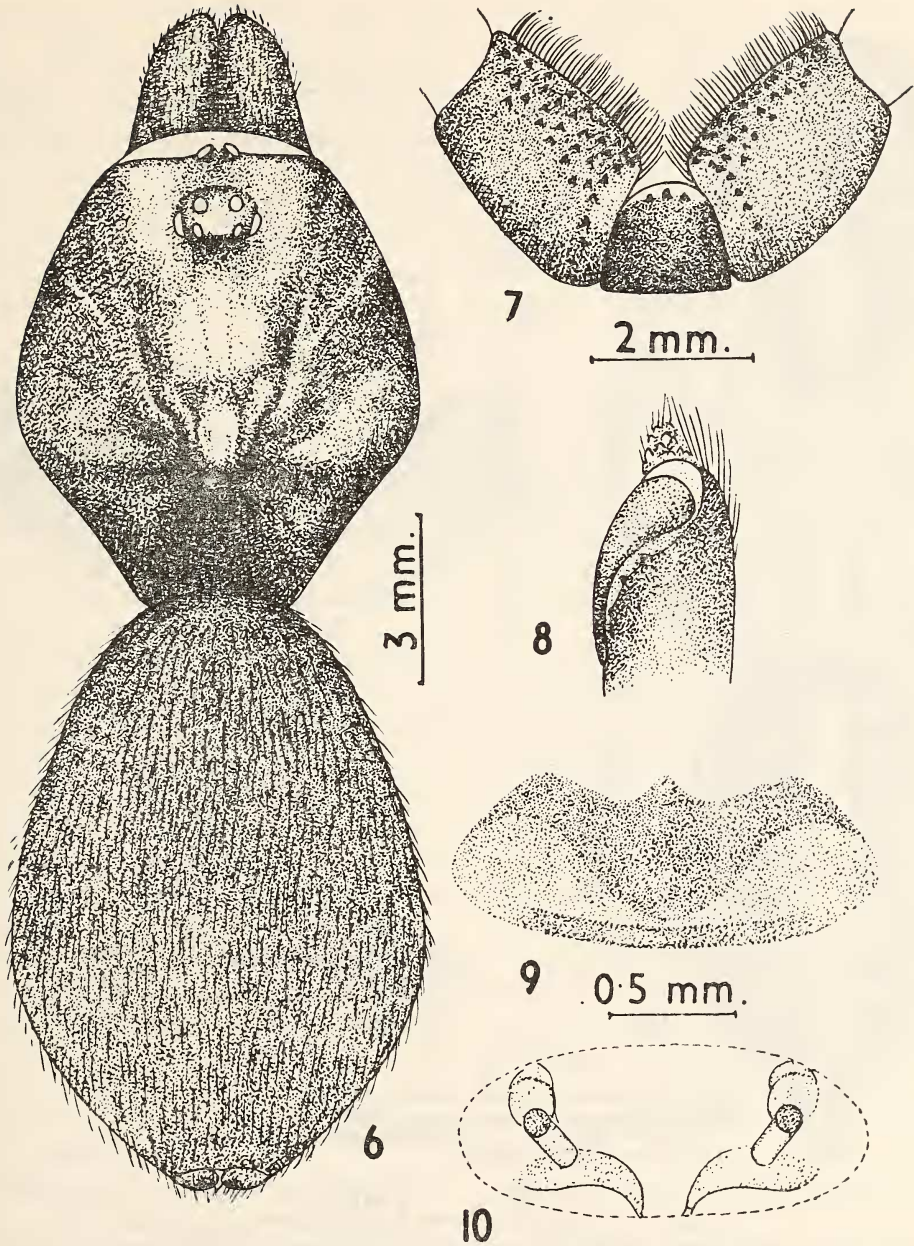
This species resembles *Acanthodon crassus* Simon but can be distinguished from it as follows: (i) Cephalothorax uniform dark chocolate brown but in *A. crassus* sides of the cephalothorax provided with black markings. (ii) Epigyne and internal genitalia also structurally different.

Family THERAPHOSIDAE

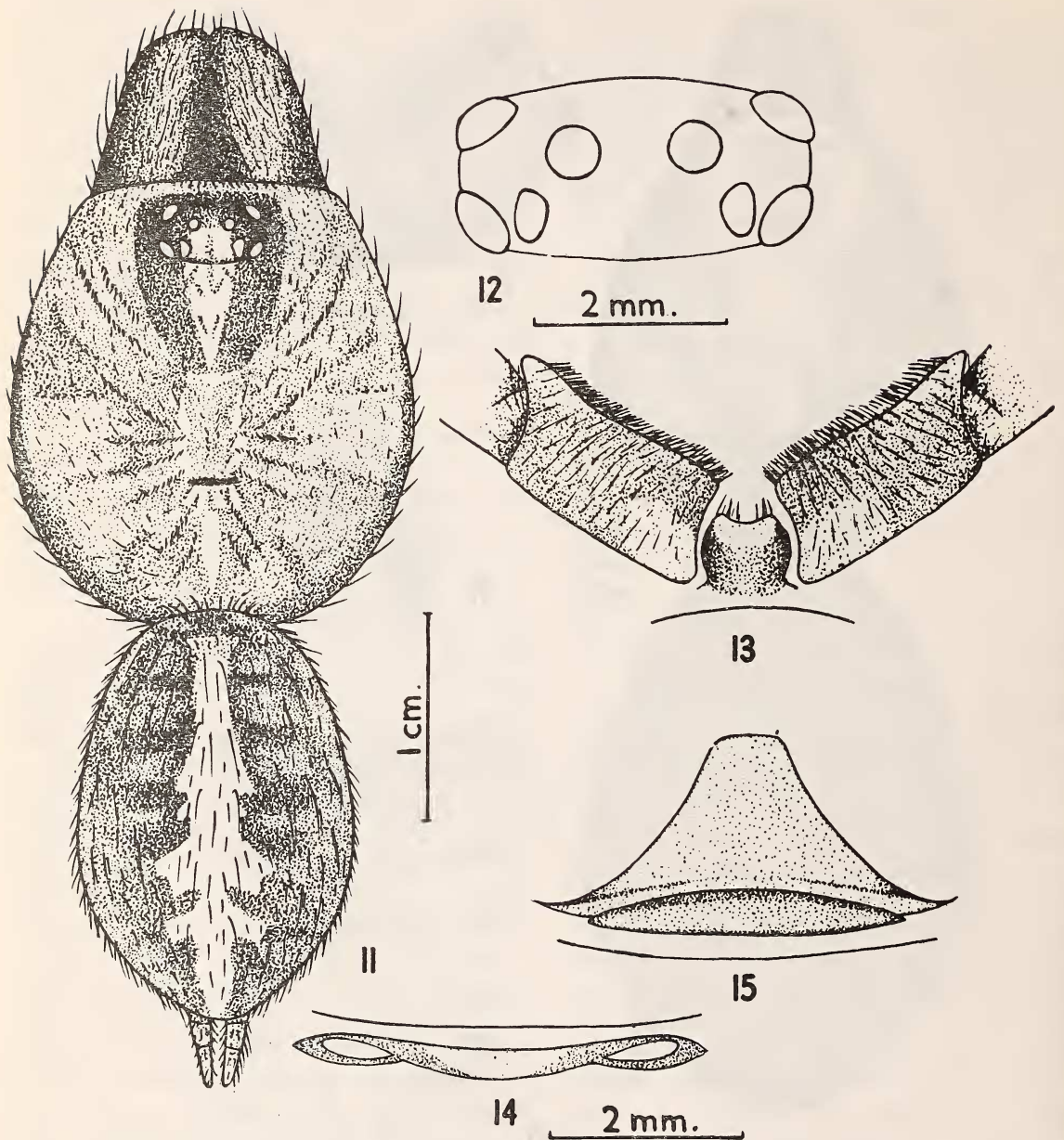
3. *Ornithoctonus gadgili* sp. nov.

General: Cephalothorax, legs and abdomen pale brown, Total length 42.00 mm. Carapace 24.00 mm long, 18.00 mm wide; abdomen 20.00 mm long, 15.00 mm wide.

Cephalothorax: Longer than wide, clothed with fine wool brown and pale hairs. Anterior side nearly as wide as posterior and not high, only cephalic region slightly high. Eyes situated in a group on a slightly elevated tubercle. Ocular tubercle some distance behind the edge of clypeus. Anterior row of eyes strongly procurved; posterior row nearly straight, posterior medians close to adjacent laterals as in text-fig. 12. Middle of cephalothorax provided with a transverse fovea and with a longitudinal pale band as in text-fig. 11. Chelicerae strong, clothed with velvety hairs and some spine-like hairs and rostellum absent.



Figs. 6-10. *Acanthodon madrasensis* sp. nov. 6. Dorsal view of female, legs omitted; 7. Maxillae and labium; 8. Right chelicera; 9. Epigyne; 10. Internal genitalia.



Figs. 11-15. *Ornithoctonus gadgili* sp. nov. 11. Dorsal view of female, legs omitted; 12. Showing eyes position; 13. Maxillae and labium; 14. Epigyne; 15. Internal genitalia.

Inner surface of maxillae sparsely hairy with prominent scopulae and base provided with small black tooth-like tubercles. Labium nearly rectangular, clothed with dense hairs and with some black tooth-like tubercles. Sternum narrower in front than behind, clothed with dense hairs, sternal sigilla small and nearly marginal. Legs very stout and comparatively short, the IV pair being as thick as the I, clothed with thick hairs, and provided with transverse pale bands. Metatarsi and tarsi of all legs provided with conspicuous ventral scopulae.

Abdomen: Longer than wide, narrowing behind, clothed with dense velvety hairs and some spine-like hairs; mid-dorsally provided with a conspicuous longitudinal white band as in text-fig. 11. Ventral side metallic black and clothed with velvety black hairs. A conspicuous white transverse band present just below the epigastriac fold. Two pairs of spinnerets, anterior pair small and posterior pair long with three segments, posterior segment slightly longer than others and tapering at the end. Epigyne as in text-fig. 14. Internal genitalia as in text-fig. 15.

Type-specimen: *Holotype* female in spirit.

Type-locality: Bandipur Forest, Karnataka, India. Coll. *Madhav Gadgil*, 8.v.1975.

This species is related to *Ornithoctonus andersoni* Pocock but it is distinguished as follows: (i) Abdomen dorsally provided with conspicuous longitudinal white band but in *O. andersoni* abdomen uniform dark. (ii) Total length is 42.00 mm but in *O. andersoni* total length is 52.00 mm. (iii) Internal genitalia also structurally different.

4. *Ischnocolus decoratus* sp. nov.

General: Cephalothorax, legs and abdomen reddish-brown. Total length 24.00 mm. Carapace 11.00 mm long, 8.20 mm wide; abdomen 13.30 mm long, 8.10 mm wide.

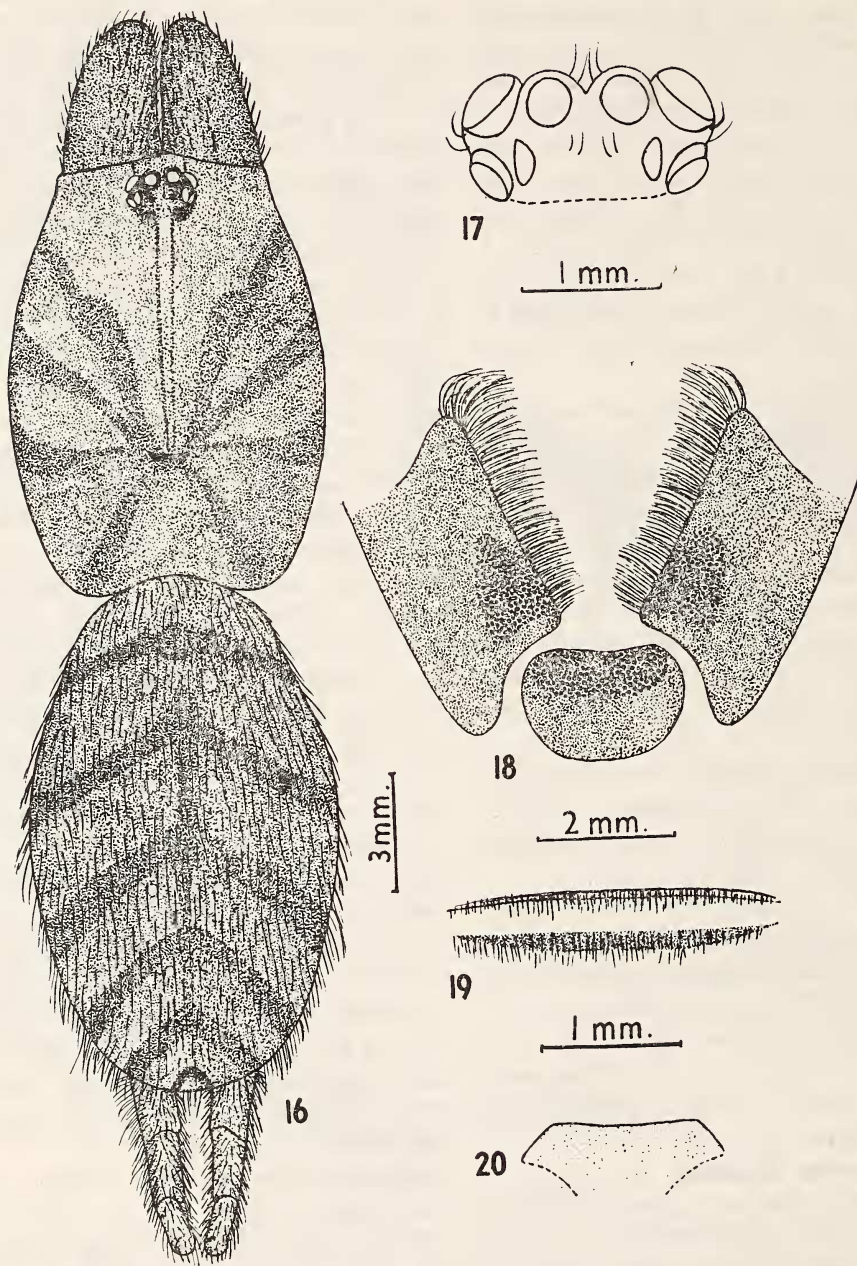
Cephalothorax: Longer than wide, broader

in front, low and clothed with fine hairs. Posterior middle of cephalothorax provided with a deep, short, nearly straight transverse fovea as in text-fig. 16. Eyes eight, pale in colour, situated in a group on a slightly elevated tubercle. Ocular tubercle situated near the edge of clypeus. Anterior row of eyes slightly procurved and lateral eyes much larger than medians and nearly equally spaced. Posterior row of eyes recurved, irregular in shape, laterals slightly larger than medians, posterior medians close to adjacent laterals as in text-fig. 17. Ocular area black and provided with conspicuous spines or spine-like hairs. Chelicerae strong, clothed with thick hairs and rostellum absent. Inner margin of maxillae provided with thick scopulae and base provided with small black tooth-like tubercles. Labium nearly rectangular and slightly wider than long, clothed with thick hairs and anterior portion provided with black tooth-like tubercles. Sternum nearly as wide in front as it is behind, clothed with dense hairs, sternal sigilla not large and remote from the margin. Legs long and moderately strong, I and IV pairs longer than others. Metatarsi and tarsi of all legs provided with ventral scopulae.

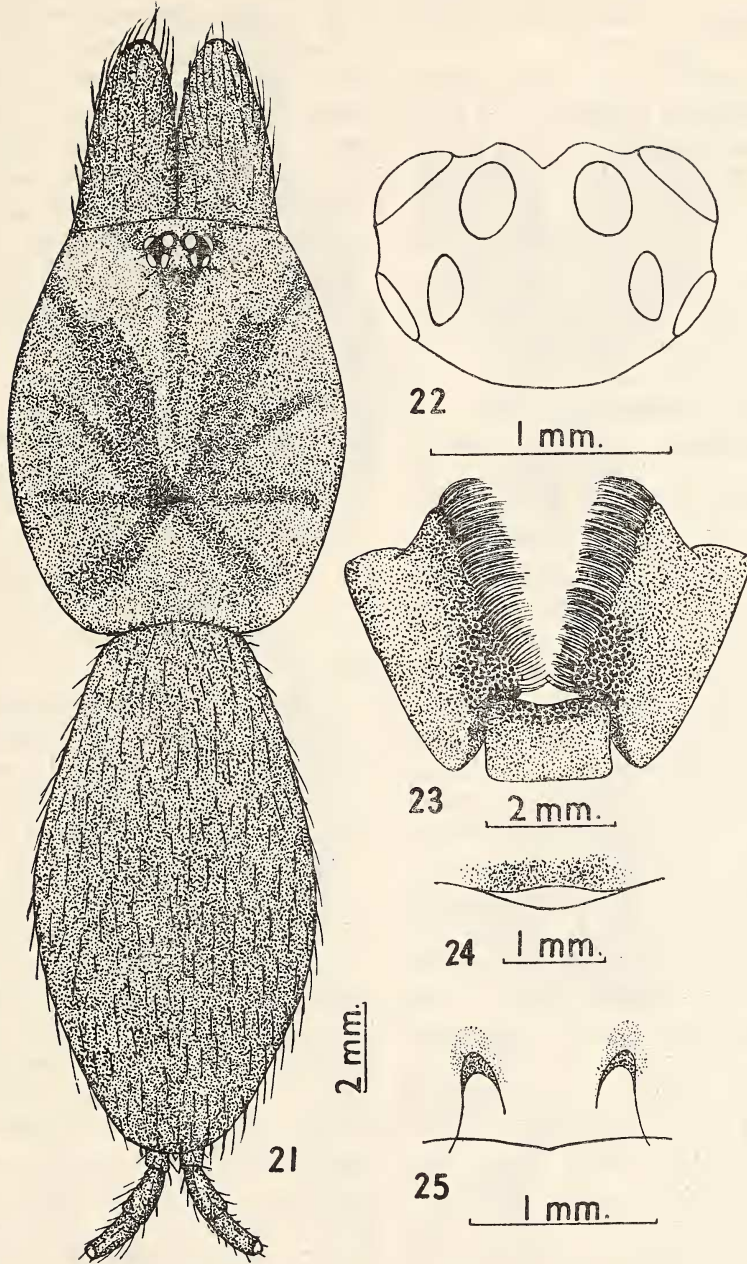
Abdomen: Longer than wide, clothed with dense short and long hairs. Dorsal side of abdomen provided with six transverse, nearly 'V' shaped black bands extending from front to behind. Ventral side uniform brown coloured, clothed with hairs. Two pairs of spinnerets, anterior pair small and posterior pair long, with three segments, basal segment longer than others. Epigyne as in text-fig. 19. Internal genitalia as in text-fig. 20.

Type-specimen: *Holotype* female, *paratypes* two females in spirit.

Type-locality: Borivli National Park, Bombay, Maharashtra, India. Coll. *J. S. Serrao*, August 1975. *Paratype* Medtedi, near Mahabaleshwar, Dist. Satara, Maharashtra, India.



Figs. 16-20. *Ischnocolus decoratus* sp. nov. 16. Dorsal view of female, legs omitted; 17. Showing eyes position; 18. Maxillae and labium; 19. Epigyne; 20. Internal genitalia.



Figs. 21-25. *Ischnocolus khasiensis* sp. nov. 21. Dorsal view of female, legs omitted; 22. Showing eyes position; 23. Maxillae and labium; 24. Epigyne; 25. Internal genitalia.

Coll. B. K. Tikader, 29-v.1976 and Borivli National Park, Bombay, Maharashtra, India, Coll. S. R. Nayak, August 1976.

This species is related to *Ischnocolus ornatus* Thorell but it is separated as follows: (i) Dorsal side of abdomen provided with six transverse, nearly 'V' shaped black bands extending from front to behind but in *I. ornatus* abdomen ornamented above with small, sub-oblique pale spots, arranged in two longitudinal rows. (ii) Total length 23.00 mm but in *I. ornatus* total length 12.00 mm. (iii) Internal genitalia also structurally different.

5. *Ischnocolus khasiensis* sp. nov.

General: Cephalothorax and legs reddish-brown, abdomen brown. Total length 21.50 mm. Carapace 9.50 mm long, 8.00 mm wide; abdomen 12.00 mm long, 7.00 mm wide.

Cephalothorax: Longer than wide, slightly broader in front, low and clothed with fine hairs. Middle of cephalothorax provided with a deep, short, straight, transverse fovea as in text-fig. 21. Eyes eight, pale in colour, situated in a group on a slightly elevated tubercle. Ocular tubercle situated near to the edge of clypeus. Anterior row of eyes slightly procurved and lateral eyes larger than the medians and nearly equally spaced. Posterior row of eyes recurved, irregular in shape, medians close to adjacent laterals as in text-fig. 22. Ocular area black. Chelicerae strong, clothed with thick hairs and rostellum absent. Inner margin of maxillae provided with thick pale scopulae and base provided with small black tooth-like tubercles. Labium nearly rectangular and depressed on the middle of anterior end, clothed with hairs, slightly wider than long and anterior portion provided with black tooth-like tubercles. Sternum nearly oval, clothed with spine-like hairs, sternal sigilla of medium size and remote from the margin. Legs long and moderately strong, I and IV

pairs longer than others. Metatarsi and tarsi of all legs provided with ventral scopulae.

Abdomen: Longer than wide, clothed with grey long hairs. Ventral side uniform light brown, clothed with hairs. Two pairs of spinnerets, anterior pair small and posterior pair long with three segments, anterior segment longer than others. Epigyne as in text-fig. 24. Internal genitalia as in text-fig. 25.

Type-specimen: Holotype female in spirit.

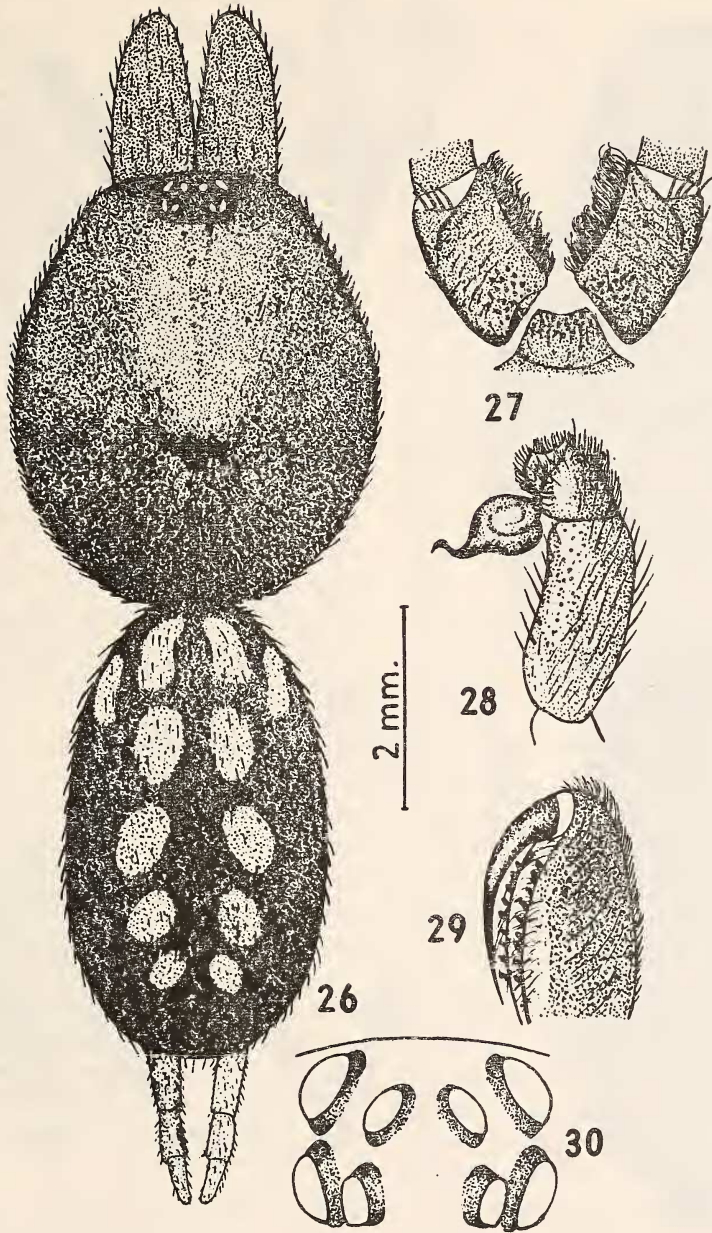
Type-locality: Umshining, Khasi and Jaintia Hills, Meghalaya, India. Coll. B. Dutta, 24.vii.1969.

This species is closely related to *Ischnocolus decoratus* sp. nov. but it is separated as follows: (i) Dorsal side of abdomen without any band but in *I. decoratus* dorsal side of abdomen provided with transverse black bands. (ii) Anterior segment of posterior spinnerets longer than other segments but in *I. decoratus* basal segment of posterior spinnerets longer than others.

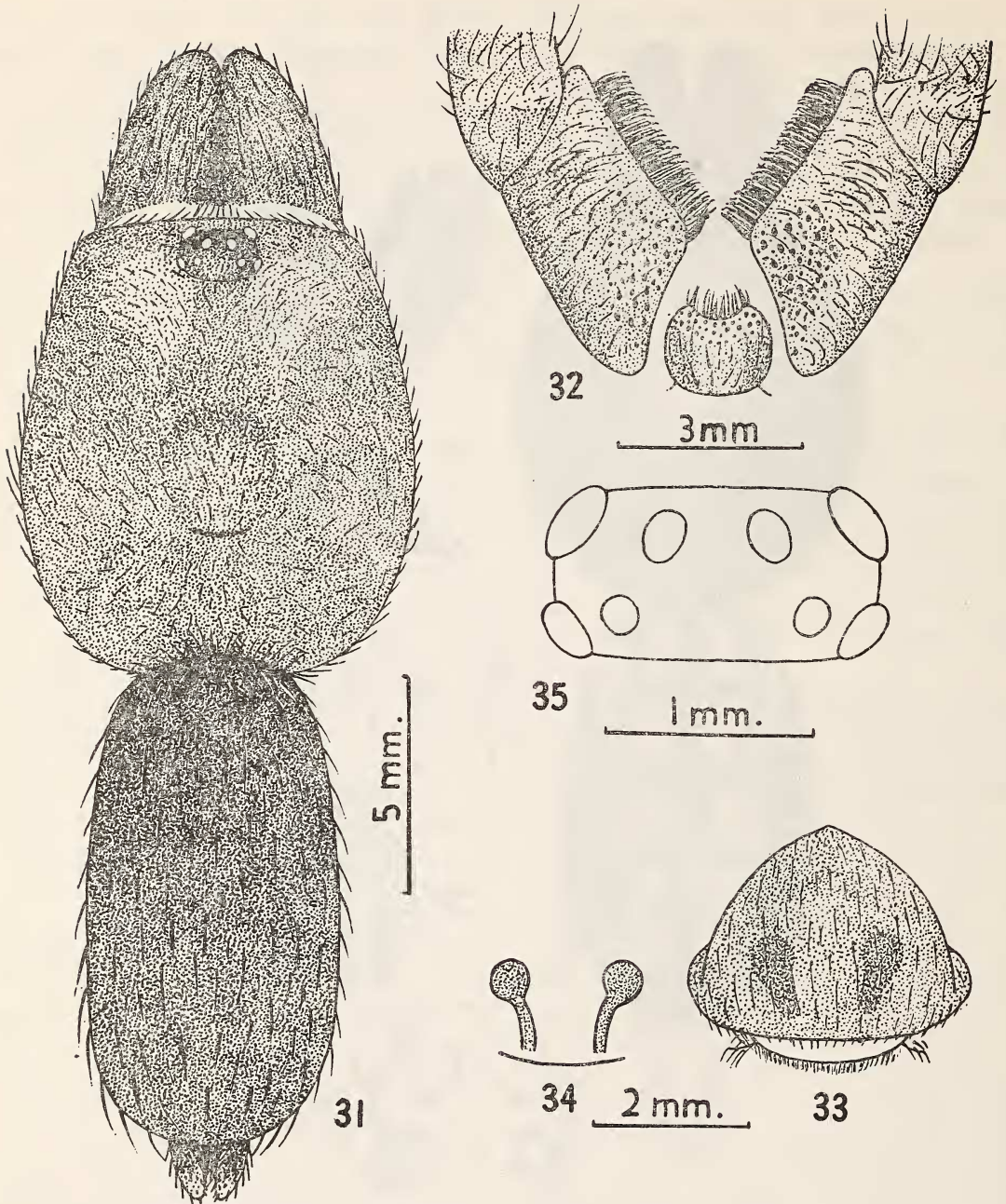
6. *Plesiophrictus meghalayaensis* sp. nov.

General: Cephalothorax black, legs and abdomen deep brown. Total length 8.80 mm. Carapace 4.30 mm long, 3.50 mm wide; abdomen 4.50 mm long, 2.50 mm wide.

Cephalothorax: Longer than wide, low and nearly elliptical in shape, clothed with fine hairs. Middle of cephalothorax provided with a deep, short, straight, transverse fovea as in text-fig. 26. Eyes eight, pale in colour, situated in a group on a slightly elevated tubercle. Ocular tubercle near to the edge of clypeus. Anterior row of eyes slightly procurved and lateral eyes larger than the medians and medians slightly closer to the adjacent laterals; posterior row nearly straight or slightly recurved, irregular in shape, medians very close to adjacent laterals as in text-fig. 30. Chelicera strong, clothed with thick hairs and rostellum absent. Inner margin of maxillae provided with thick,



Figs. 26-30. *Plesiophrictus meghalayaensis* sp. nov. 26. Dorsal view of male, legs omitted; 27. Maxillae and labium; 28. Male palp; 29. Right chelicera; 30. Showing eyes position.



Figs. 31-35. *Plesiophrictus mahabaleshwari* sp. nov. 31. Dorsal view of female, legs omitted; 32. Maxillae and labium; 33. Epigyne; 34. Internal genitalia; 35. Showing eyes position.

pale scopulae and base provided with small black tooth-like tubercles. Labium nearly rectangular, slightly wider than long, and anterior portion provided with black tooth-like tubercles. Sternum nearly round, clothed with spine-like hairs, sternal sigilla marginal. Legs long and moderately strong, I and IV pair longer than others. Metatarsi and tarsi of all legs provided with ventral scopulae. Male palp as in text-fig. 28.

Abdomen: Longer than wide, clothed with fine hairs. Dorsal side of abdomen provided with five pairs of inconspicuous longitudinal pale patches. Ventral side uniform pale coloured, clothed with hairs. Two pairs of spinnerets, anterior pair small and posterior pair long with three segments, basal segment longer than others.

Type-specimen: *Holotype* male, *paratype* one male, *allotype* two females in spirit.

Type-locality: Fruit garden, Nongrim Hills, Shillong, Meghalaya, India. Coll. *M. S. Tyrwa*, 13.iii.1974.

This species resembles *Plesiophrictus sericeus* Pocock but it is separated as follows: (i) The total length is 8.80 mm but in *P. sericeus* the total length is 22.00 mm. (ii) Abdomen dorsally provided with two rows of longitudinal pale patches but in *P. sericeus* abdomen dorsally uniform coloured, without patches.

7. *Plesiophrictus mahabaleshwari* sp. nov.

General: Cephalothorax and legs light reddish-brown, abdomen deep brown. Total length 22.00 mm. Carapace 11.00 mm long, 9.00 mm wide; abdomen 12.00 mm long, 6.00 mm wide.

Cephalothorax: Longer than wide, slightly high, both end nearly of same width, clothed with thick hairs. Middle of cephalothorax provided with a deep, short, straight, transverse fovea as in text-fig. 31. Eyes eight, pale in

colour, situated in a group on a slightly elevated tubercle. Ocular tubercle situated near the edge of clypeus. Anterior row of eyes procurved, lateral eyes larger than the medians and nearly equally spaced. Posterior row of eyes recurved, medians close to adjacent laterals as in text-fig. 35. Chelicerae strong, clothed with thick hairs and rostellum absent. Inner margin of maxillae provided with thick pale scopulae and base provided with small black tooth-like tubercles. Labium nearly rectangular, slightly wider than long, anterior margin procurved, clothed with thick hairs and tooth-like black tubercles. Sternum nearly round, clothed with spine-like hairs, sternal sigilla marginal. Legs long and strong, I and IV, longer than others. Metatarsi and tarsi provided with ventral scopulae and with prominent claw-tufts.

Abdomen: Longer than wide, clothed with mouse hairs. Ventral side uniform deep brown or black. Two pairs of spinnerets, anterior pair small and posterior pair long with three segments, basal segment longer than others. Epigyne simple as in text-fig. 33. Internal genitalia as in text-fig. 34.

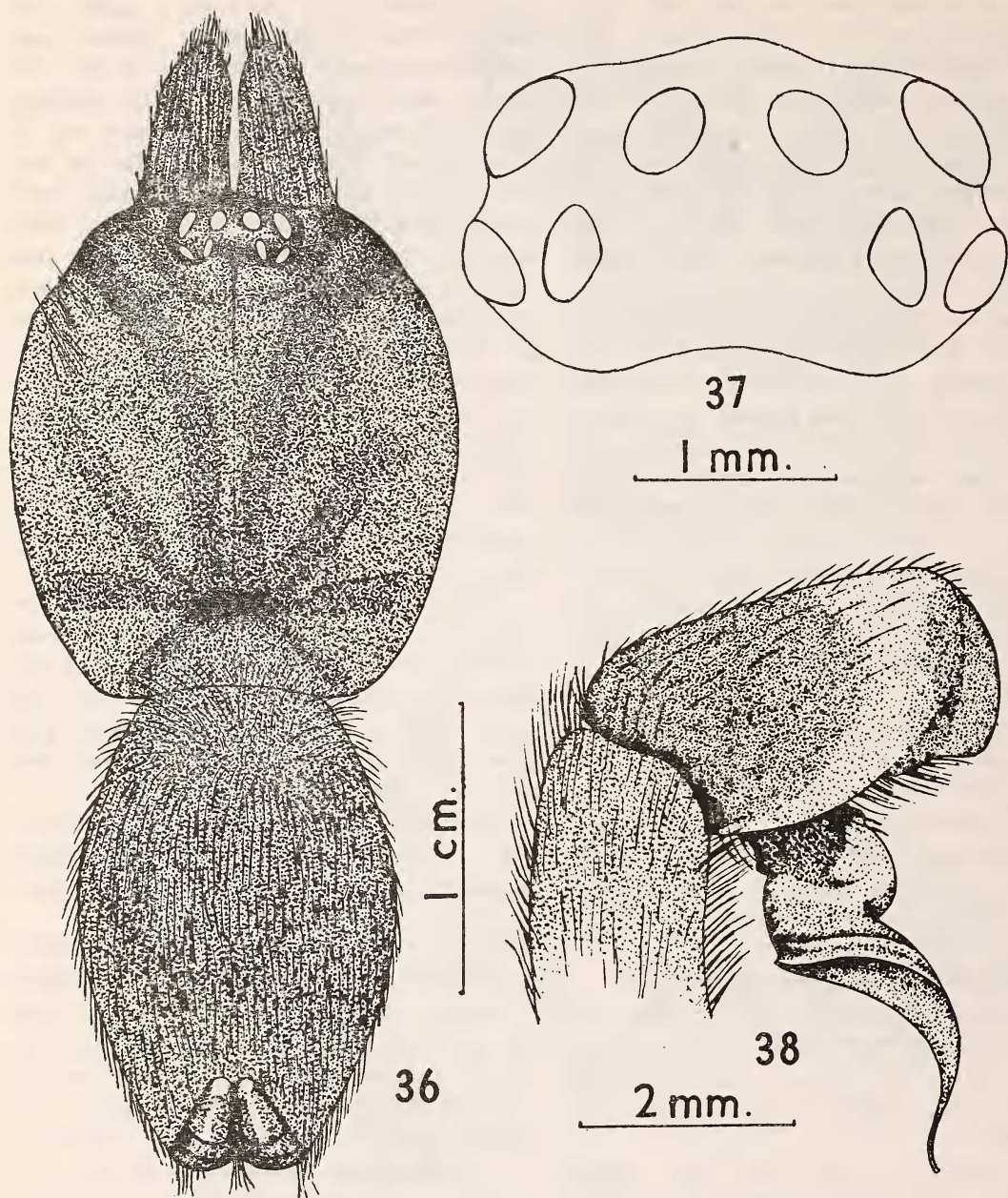
Type-specimen: *Holotype* female in spirit.

Type-locality: Mahabaleshwar, Dist. Satara, Maharashtra, India. Coll. *B. K. Tikader*, 31.v.1976.

This species is closely related to *Plesiophrictus meghalayaensis* sp. nov. but it is separated as follows: (i) Dorsal side of abdomen without any band but in *P. meghalayaensis* dorsal side of abdomen provided with five pairs of inconspicuous longitudinal pale patches. (ii) Internal genitalia also structurally different.

8. *Phlogiodes himalayensis* sp. nov.

General: Cephalothorax, legs and abdomen dark-brown. Total length 33.00 mm. Carapace 18.00 mm long, 15.00 mm wide; abdomen 16.00 mm long, 12.00 mm wide.



Figs. 36-38. *Phlogiodes himalayensis* sp. nov. 36. Dorsal view of male, legs omitted; 37. Showing eyes position; 38. Male palp.

NEW DESCRIPTIONS

Cephalothorax: Slightly longer than wide, clothed with coating of silky grey hairs, anterior portion broad, but slightly narrower than the posterior end. Thoracic region moderately high and convex but cephalic region slightly high. Middle of cephalothorax provided with a transverse deep procurved fovea. Eyes situated in a group on a slightly elevated tubercle. Ocular tubercle situated near the edge of clypeus. Anterior row of eyes slightly procurved, posterior row nearly straight; posterior medians close to adjacent laterals as in text-fig. 37. Chelicerae strong, clothed with silky-grey hairs and rostellum absent. Inner margin of maxillae provided with thick scopulae and base provided with small black tooth-like tubercles. Labium nearly rectangular and wider than long, clothed with thick hairs and anterior portion provided with black tooth-like tubercles. Sternum slightly narrower in front, clothed with dense hairs, posterior sternal sigilla large and remote from the margin. Legs very long and stout, the IV pair being as long and stout as the I; clothed with thick hairs. Male palp as in text-fig. 38.

Abdomen: Longer than wide, narrowing behind, clothed with thick long hairs. Ventral

side slightly darker than dorsal and clothed with thick hairs. Two pairs of spinnerets, anterior pair small and posterior pair long with three segments, posterior segment longer than others.

Type-specimen: Holotype male in spirit.

Type-specimen: Birch Hill, Darjeeling, Eastern Himalayas, West Bengal, India. Coll. Bijan Biswas, 22.iv.1974.

This species is related to *Phlogiodes validus* Pocock but it is separated as follows: (i) Anterior portion of cephalothorax broad but in *P. validus* anterior portion of cephalothorax narrow. (ii) Male palp also structurally different.

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